173791

POSTED 04/29/05

STATE OF SOUTH CAROLINA)
)
JASPER COUNTY)

AFFIDAVIT OF SCOTT BAXTER

Personally appeared before me Scott Baxter, who first being duly sworn, did depose and say:

1. I am a technical consultant providing network design and performance optimization services to wireless operators and equipment manufacturers continuously since 1995. I also provide training in wireless system design, technical operation, and practical problem solving for wireless engineers and technicians. Over the last five years I have taught and consulted in 42 states and 16 countries. Through my website www.howcdmaworks.com I have provided self-study documents to at least 6,000 wireless professionals in 27 countries around the world. I began my wireless career in 1986 working for Bellsouth Mobility, first as RF engineer responsible for Tennessee, Kentucky and the Carolinas, and then as General Manager of Engineering in the Bellsouth Mobility headquarters in Atlanta. In 1989 I joined Contel Cellular in Atlanta as national Radio Frequency (RF) Engineering Manager. In 1992 I joined Nortel Networks as global RF Engineering Manager. In 1995 I left Nortel to begin my consulting practice. I am an Electrical Engineering graduate of Vanderbilt University in Nashville, Tennessee (BSEE 1978).
2. This document concerns the incumbent local service areas of the McClellanville and Awendaw Exchanges of McClellanville Telephone Company, hereinafter referred to as the service area of TDS Telecom.
3. There are several wireless system operators who provide coverage in TDS Telecom identified in (2) above. They include: Alltel, Verizon, and others. None of these wireless service providers are affiliated with TDS Telecom.

4. I personally conducted drive tests to establish the actual existing level of wireless coverage by Alltel, Verizon and Sprint PCS in the service area of TDS Telecom. The drive tests were conducted during day-long sessions on March 19, 20 and 21, 2005, during which I drove more than 1,500 miles while collecting coverage data. The drive tests used standard commercial phones purchased from the wireless service providers. For Alltel, a Kyocera QCP2325 phone was used. For Verizon, a Kyocera QCP2235 phone was used. For Sprint PCS, a Kyocera QCP2255 phone was used. Each phone was connected by appropriate cable to an Invex 3G data collection mainframe unit manufactured by Grayson Wireless, now a division of Andrew Corporation. This is a standard commercial wireless data collection system which collects voluminous data from each phone for analyzing the step-by-step progress of calls, signal strengths and signal identities, and quality measures such as frame error rate (FER). The Invex unit also collects location data from the satellites of the Global Positioning System (GPS) to facilitate later analysis of the collected data by position and the preparation of maps showing the data collected. The actual operation of the Invex unit and the storage of its data is under the control of Invex software operating on a portable computer. The analysis of the collected data and preparation of maps and other reports is performed by the Andrew Interpreter software. This is a popular and very widely used combination of software and hardware for investigation and management of cellular and PCS systems around the world.

5. The results of the drive tests are shown on maps attached as EXHIBIT A and incorporated herein by reference. The maps of EXHIBIT A show the Frame Error Rate actually observed for the three wireless carriers tested. Frame Error Rate, generally called "FER" and measured in percent, is the prevalent wireless industry standard for reporting the quality of service for systems using the CDMA transmission technology, including Alltel, Verizon and Sprint PCS. There are fifty frames in one second of a call. An FER of 0-2% means that on average, zero or one frames are missed during a typical

second of a call. This is imperceptible to the human ear and the quality is comparable to a landline telephone call. For FER of 2-5%, an occasional syllable may be missed, similar or very close to landlike quality. For an FER of 5-10% an occasional word will be missed. When FER is 10-100%, progressively more words are missed, and there is a risk of dropped calls. For each wireless service studied, the number of calls attempted, failed call attempts, dropped calls, and successfully completed calls are shown on the face of the related exhibit. The boundaries of the service area of TDS Telecom also are shown and labeled on the exhibit. The maps of EXHIBIT A show that Alltel and Verizon deliver landline-quality service throughout the TDS Telecom service area.

6. The drive test results demonstrate that Alltel and Verizon have generally available coverage and a good quality of service throughout the TDS Telecom service area. While coverage maps are presented only for Alltel and Verizon, coverage is also available from other wireless carriers in all or parts of the TDS Telecom service area.

FURTHER AFFIANT SAITH NOT.

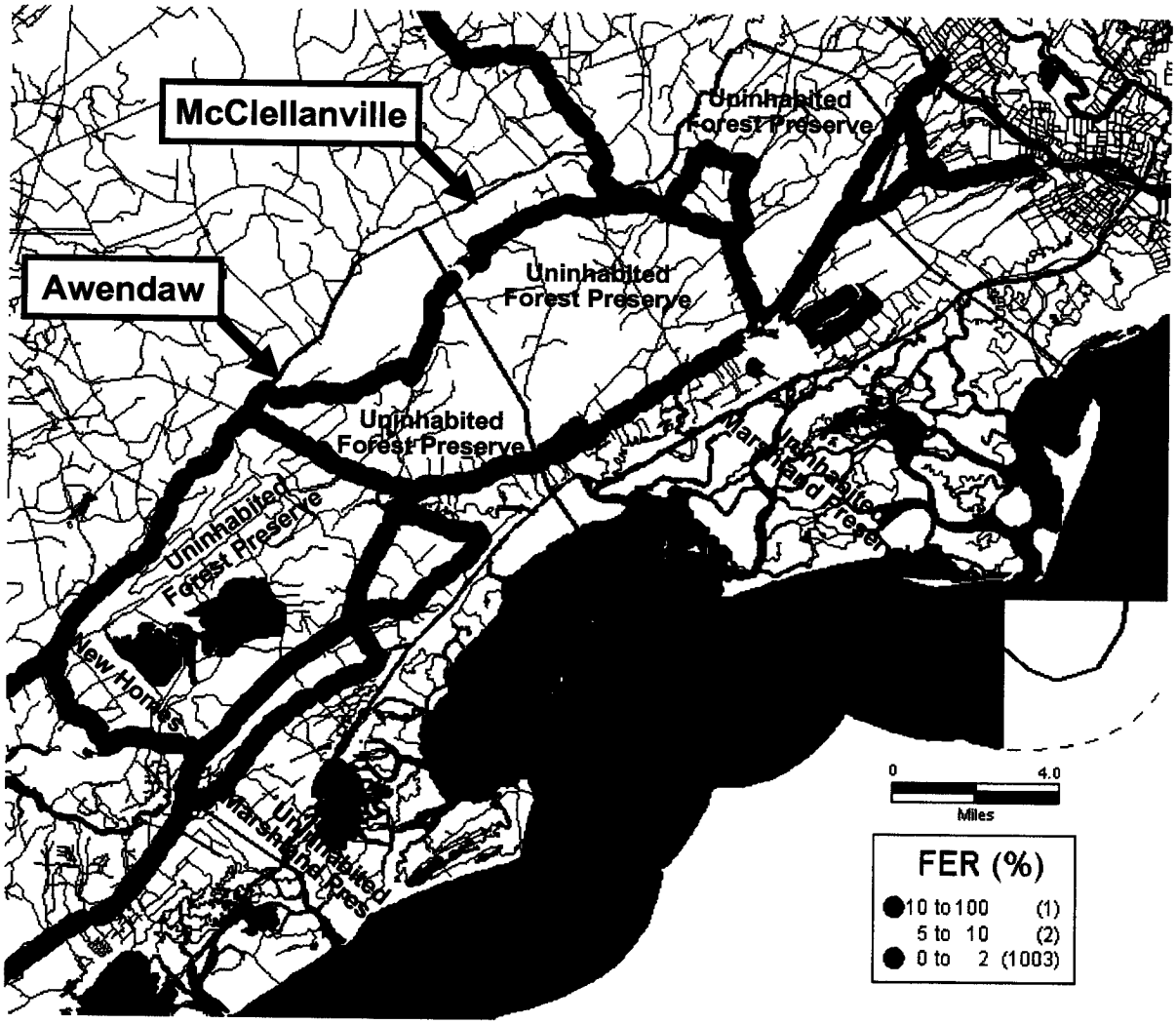
Scott Baxter

Sworn to before me this day,
4-25-05.

Notary Public for the State of South Carolina

My Commission Expires 9-22-13.

Exhibit A Figure 1
McClellanville-Awendaw Exchanges
Wireless Service by Alltel



Effects of FER	
● 10-100%	(broken speech, risk of dropped call)
5-10%	(occasional missed word)
● 2-5%	(occasional missed syllable; good intelligibility)
● 0-2%	(excellent speech, typical landline quality)

Call Attempts	293
Access Failures	10
Dropped Calls	0
Normal-End Calls	283

4. I personally conducted drive tests to establish the actual existing level of wireless coverage by Alltel, Verizon and Sprint PCS in the service area of TDS Telecom. The drive tests were conducted during day-long sessions on March 19, 20, 21 and April 23, 2005, during which I drove more than 1450 miles while collecting coverage data. The drive tests used standard commercial phones purchased from the wireless service providers. For Alltel, a Kyocera QCP2325 phone was used. For Verizon, a Kyocera QCP2235 phone was used. For Sprint PCS, a Kyocera QCP2255 phone was used. Each phone was connected by appropriate cable to an Invex 3G data collection mainframe unit manufactured by Grayson Wireless, now a division of Andrew Corporation. This is a standard commercial wireless data collection system which collects voluminous data from each phone for analyzing the step-by-step progress of calls, signal strengths and signal identities, and quality measures such as Frame Error Rate (FER). The Invex unit also collects location data from the satellites of the Global Positioning System (GPS) to facilitate later analysis of the collected data by position and the preparation of maps showing the data collected. The actual operation of the Invex unit and the storage of its data is under the control of Invex software operating on a portable computer. The analysis of the collected data and preparation of maps and other reports is performed by the Andrew Interpreter software. This is a popular and very widely used combination of software and hardware for investigation and management of cellular and PCS systems around the world.
5. The results of the drive tests are shown on maps attached as EXHIBIT A and incorporated herein by reference. The maps of EXHIBIT A show the FER actually observed for the three wireless carriers tested. FER measured in percent, is the prevalent wireless industry standard for reporting the quality of service for systems using the CDMA transmission technology, including Alltel, Verizon and Sprint PCS. There are fifty frames in one second of a call. An FER of 0-2% means that on average, zero or one frames are missed during a typical second of a call. This is imperceptible to the human ear and the

quality is comparable to a landline telephone call. For FER of 2-5%, an occasional syllable may be missed. For an FER of 5-10% an occasional word will be missed. When FER is 10-100%, progressively more words are missed, and there is a risk of dropped calls. For each wireless service studied, the number of calls attempted, failed call attempts, dropped calls, and successfully completed calls are shown on the face of the related exhibit. The boundaries of the service area of TDS Telecom also are shown and labeled on the exhibit. The maps of EXHIBIT A show that Alltel and Verizon deliver landline-quality service throughout the TDS Telecom service area.

6. The drive test results demonstrate that Alltel and Verizon have generally available coverage and a good quality of service throughout the TDS Telecom service area. While coverage maps are presented only for Alltel and Verizon, coverage is also available from other wireless carriers in all or parts of the TDS Telecom service area.

FURTHER AFFIANT SAITH NOT.

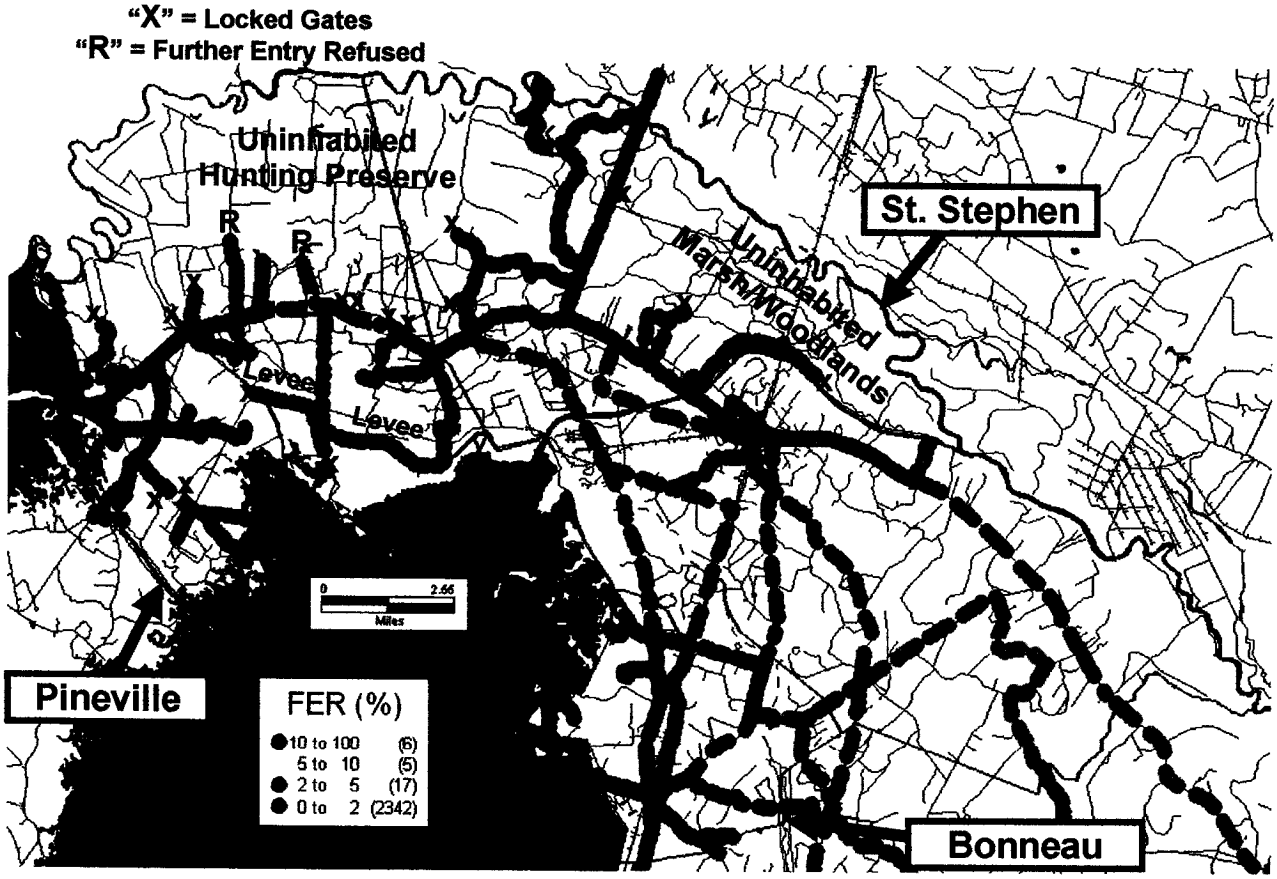
Scott Baxter

Sworn to before me this day,
4-25-05.

Notary Public for the State of South Carolina

My Commission Expires 9-22-13.

Exhibit A Figure 1
Pineville-St. Stephen-Bonneau Exchanges
Wireless Service by Alltel



Effects of FER	
● 10-100%	(broken speech, risk of dropped call)
5-10%	(occasional missed word)
● 2-5%	(occasional missed syllable; good intelligibility)
● 0-2%	(excellent speech, typical landline quality)

Call Attempts	823
Access Failures	16
Dropped Calls	1
Normal-End Calls	807

quality is comparable to a landline telephone call. For FER of 2-5%, an occasional syllable may be missed, similar or close to landline quality. For an FER of 5-10% an occasional word will be missed. When FER is 10-100%, progressively more words are missed, and there is a risk of dropped calls. For each wireless service studied, the number of calls attempted, failed call attempts, dropped calls, and successfully completed calls are shown on the face of the related exhibit. The boundaries of the service area of TDS Telecom also are shown and labeled on the exhibit. The maps of EXHIBIT A show that landline-quality service is available from Alltel and Verizon throughout the TDS Telecom service area. In addition to these two services demonstrated in the attached exhibits, field tests also disclosed the presence of service by additional wireless operators over substantially all of the area.

6. The drive test results demonstrate that Alltel and Verizon have generally available coverage and a good quality of service throughout the TDS Telecom service area. While measured coverage maps are presented only for Alltel and Verizon, coverage is also available from other wireless carriers in all or parts of the TDS Telecom service area.

FURTHER AFFIANT SAITH NOT.

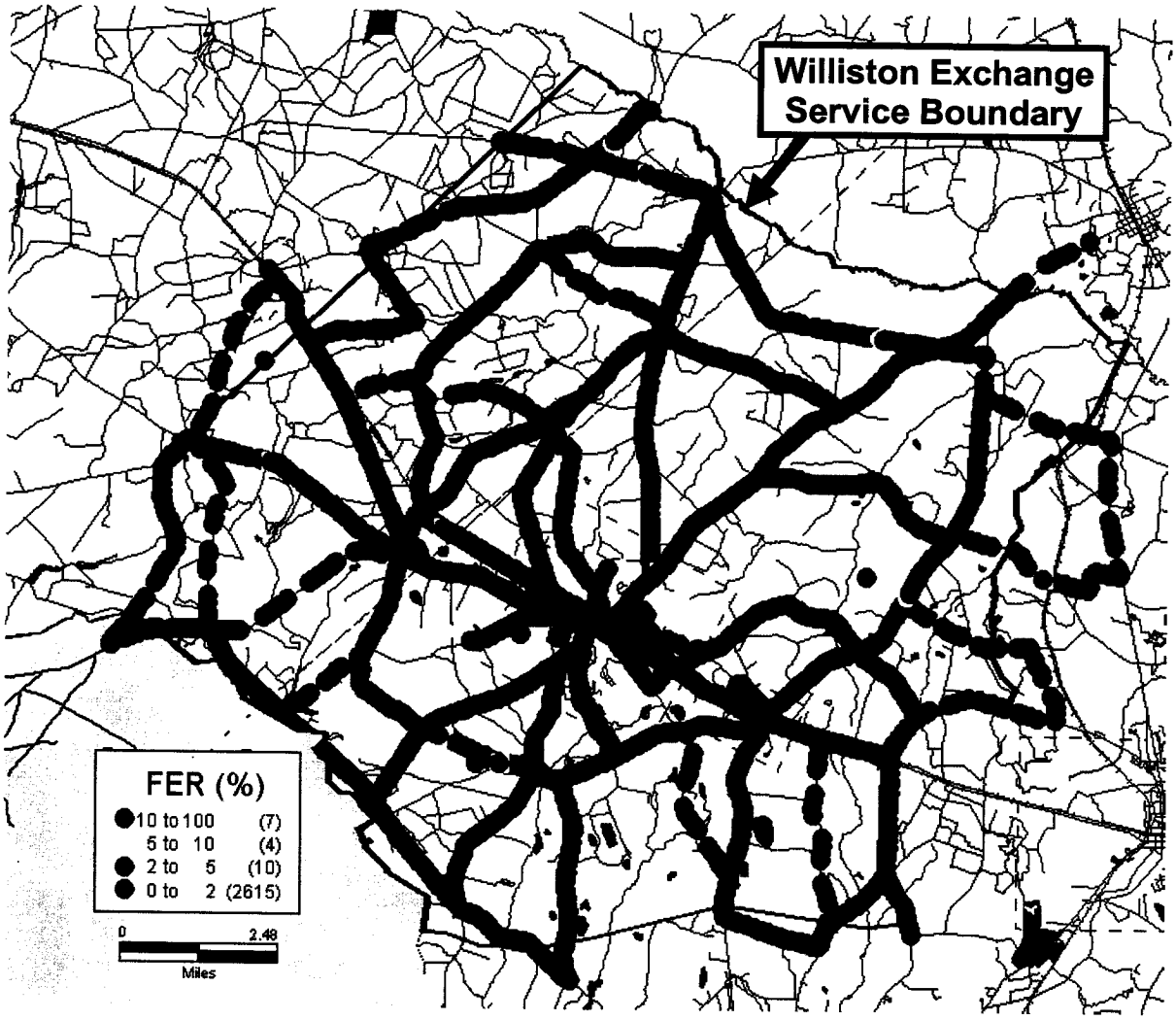
Scott Baxter

Sworn to before me this day,
4-25-05.

Notary Public for the State of South Carolina
My Commission Expires 9-22-13.

Williston

Exhibit A Figure 1
Williston Exchange
Wireless Service by Alltel

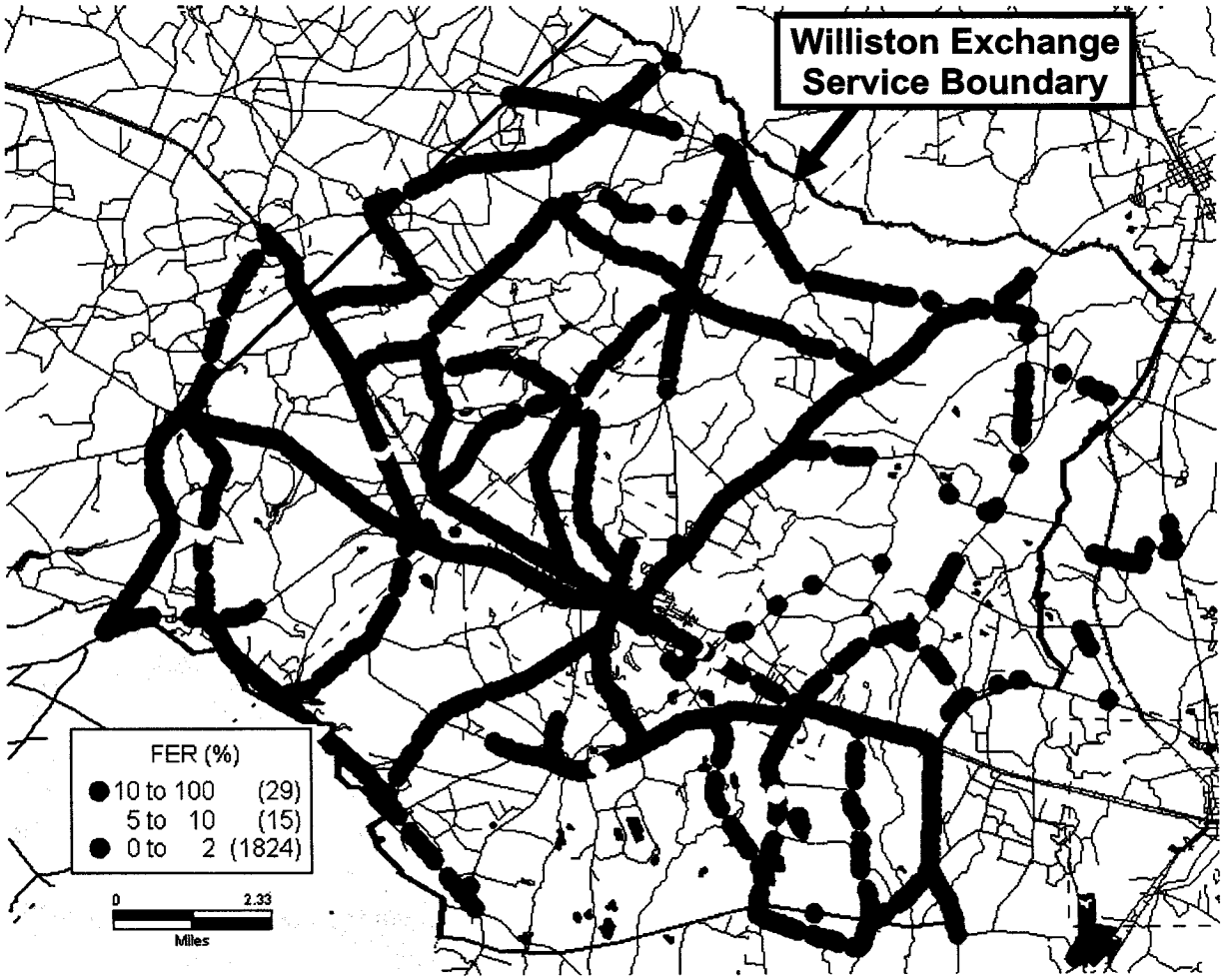


Effects of FER

- **10-100%** (broken speech, risk of dropped call)
- **5-10%** (occasional missed word)
- **2-5%** (occasional missed syllable; good intelligibility)
- **0-2%** (excellent speech, typical landline quality)

Call Attempts	539
Access Failures	16
Dropped Calls	2
Normal-EndCalls	521

Exhibit A Figure 2
Williston Exchange
Wireless Service by Verizon



Effects of FER

- **10-100%** (broken speech, risk of dropped call)
- **5-10%** (occasional missed word)
- **2-5%** (occasional missed syllable; good intelligibility)
- **0-2%** (excellent speech, typical landline quality)

Call Attempts	515
Access Failures	3
Dropped Calls	4
Normal-EndCalls	508

7. The drive test results demonstrate that Alltel and Verizon have generally available coverage and a good quality of service throughout the TDS Telecom service area. While measured coverage maps are presented only for Alltel and Verizon, coverage is also available from other wireless carriers in all or parts of the TDS Telecom service area.

FURTHER AFFIANT SAITH NOT.

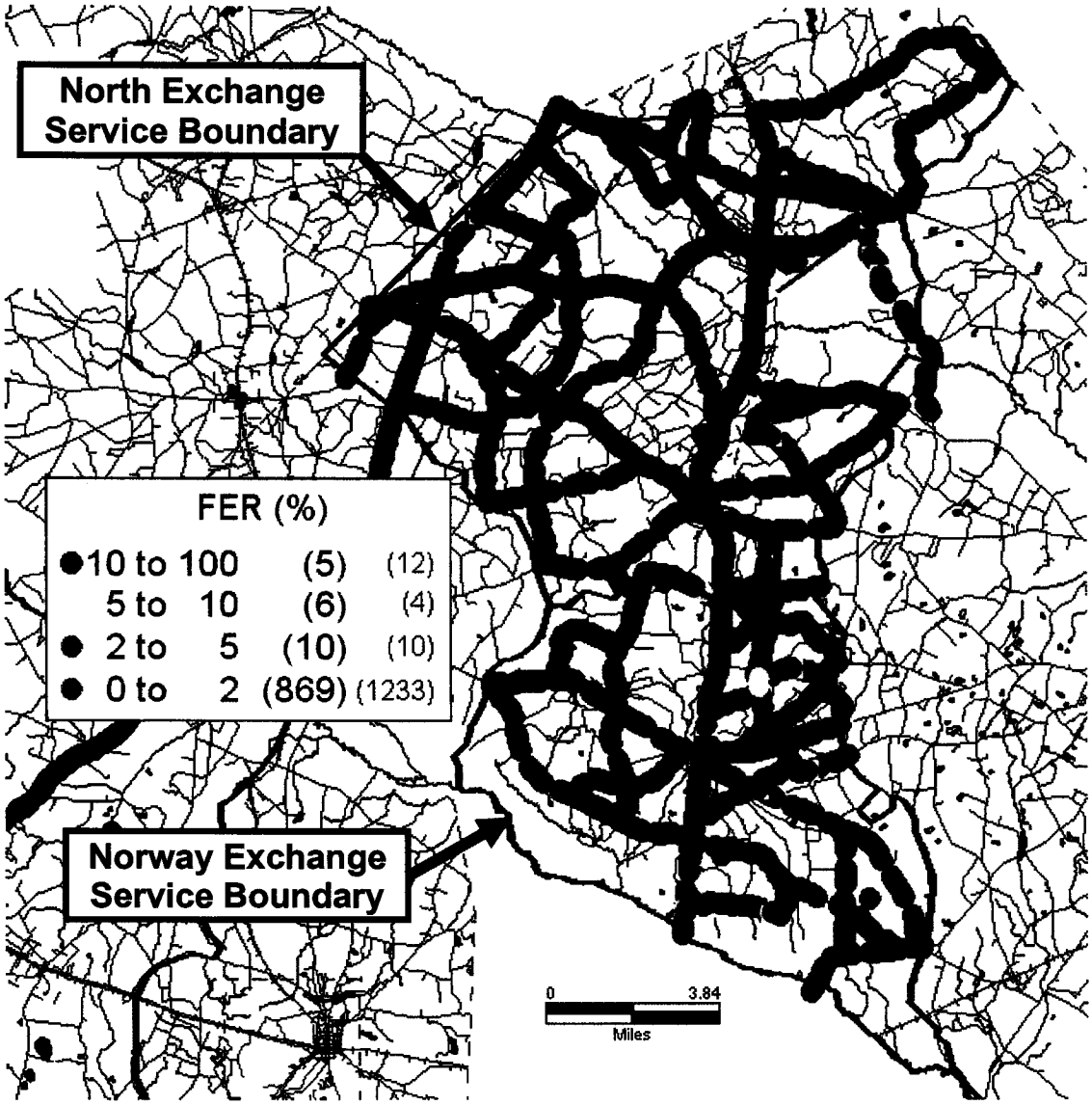
Scott Baxter

Sworn to before me this day,
4-25-05.

Deborah Smith
Notary Public for the State of South Carolina

My Commission Expires 9-22-13.

Exhibit A Figure 1
North and Norway Exchanges
Wireless Service by Alltel

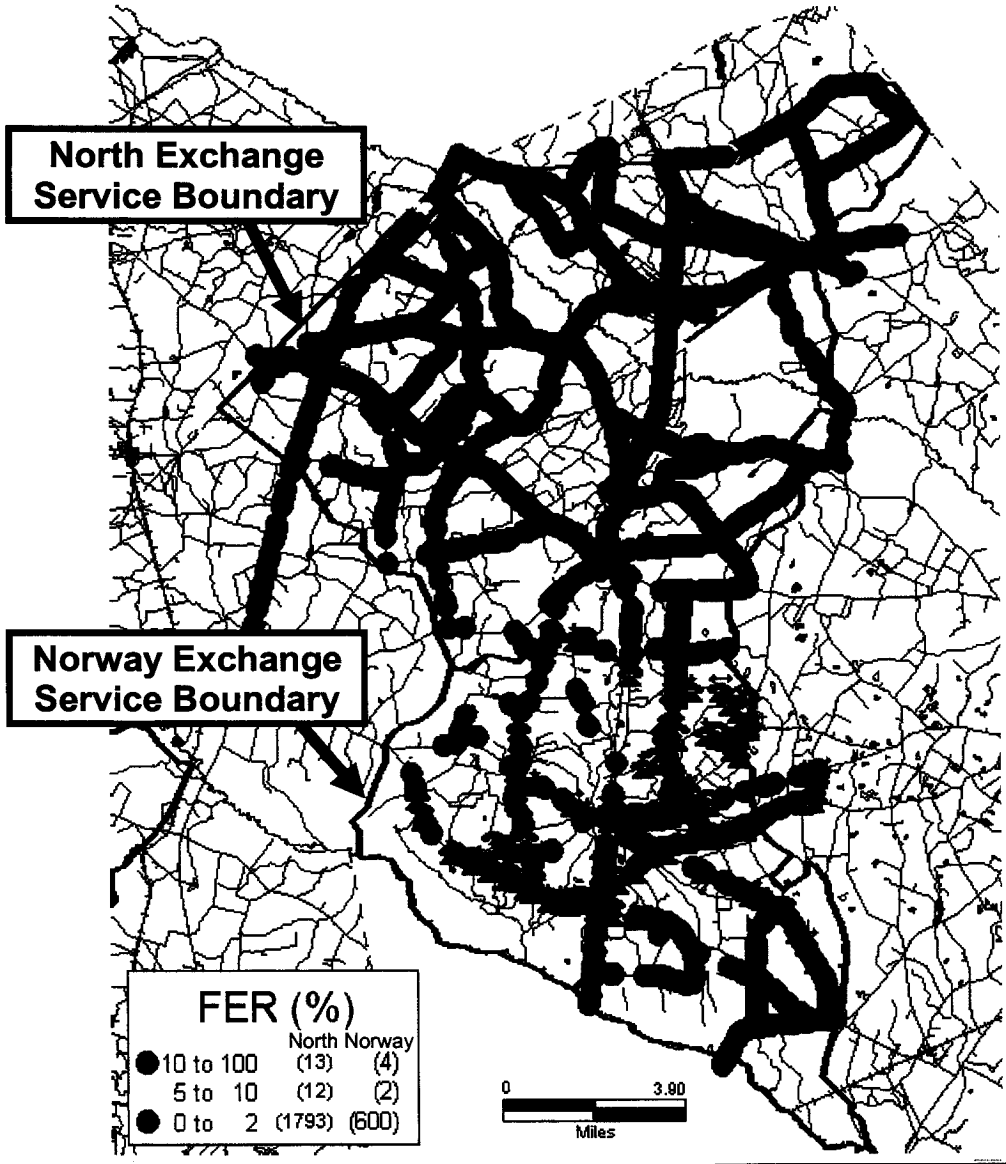


Effects of FER

- **10-100%** (broken speech, risk of dropped call)
- **5-10%** (occasional missed word)
- **2-5%** (occasional missed syllable; good intelligibility)
- **0-2%** (excellent speech, typical landline quality)

Call Attempts	547
Access Failures	16
Dropped Calls	4
Normal-End Calls	527

Exhibit A Figure 2
North and Norway Exchanges
Wireless Service by Verizon



Call Attempts	550
Access Failures	15
Dropped Calls	2
Normal-End Calls	533
Analog Calls	76

Effects of FER

- **10-100%** (broken speech, risk of dropped call)
- **5-10%** (occasional missed word)
- **2-5%** (occasional missed syllable; good intelligibility)
- **0-2%** (excellent speech, typical landline quality)